

Response to Office Action

Ser. No. 10/002,145

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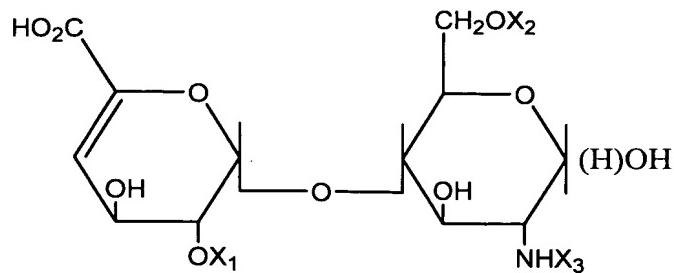
I. AMENDMENTS

Amendments to the Claims:

The following listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) A method for treating a malignancy selected from the group consisting of breast cancer, lung cancer, bone cancer, bladder cancer, rhabdomyosarcoma, angiosarcoma, adenocarcinoma, prostate cancer, colon cancer, squamous cell carcinoma of the cervix, ovarian cancer, malignant fibrous histiocytoma, skin cancer, leiomyosarcoma, astrocytoma, glioma and hepatocellular carcinoma in a subject;

wherein the method comprises administering a pharmaceutically effective amount of a therapeutic agent to the subject, said therapeutic agent comprising an oligosaccharide, wherein said oligosaccharide has a molecular weight of less than about 3000 daltons and consists of up to about 10 saccharide units and, within said units, comprises a disaccharide of formula (I) or its pharmaceutically acceptable salt:



in which X_1 is hydrogen or sulfate; X_2 is hydrogen or sulfate; and X_3 is sulfate or acetyl, provided that if X_3 is sulfate, then at least one of X_1 or X_2 is sulfate and if X_3 is acetyl, then both X_1 and X_2 are sulfates.

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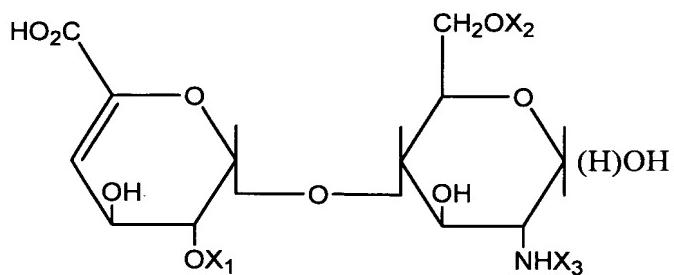
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2. – 4. (Canceled)

5. (Withdrawn) The method of claim 4, wherein said oligosaccharide is an N-sulfated-4-deoxy-4-en-iduronoglcucosamine having at least one other sulfate group and pharmaceutically acceptable salts thereof.

6. (Withdrawn) The method of claim 4, wherein said oligosaccharide is an N-acetylated-4-deoxy-4-en-iduronoglcucosamine having at least two sulfate groups and pharmaceutically acceptable salts thereof.

7. (Previously Presented) The method of claim 1, wherein said oligosaccharide is a disaccharide of formula (I) or its pharmaceutically acceptable salt:



(I)

in which X_1 is hydrogen or sulfate; X_2 is hydrogen or sulfate; and X_3 is sulfate or acetyl, provided that if X_3 is sulfate, then at least one of X_1 or X_2 is sulfate and if X_3 is acetyl, then both X_1 and X_2 are sulfates.

8. (Previously Presented) The method of claim 1, wherein said oligosaccharide is an N-sulfated-4-deoxy-4-en-glucuronoglcucosamine having at least one other sulfate group or a pharmaceutically acceptable salt thereof.

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9. (Withdrawn) The method of claim 1, wherein said oligosaccharide is a sulfated disaccharide.

10. (Previously Presented) The method of claim 1, wherein said oligosaccharide is a sulfated disaccharide.

11. (Previously Presented) The method of claim 1, wherein said oligosaccharide comprises at least one of Po912, DS 1145, DS 1020, DS 8767, DS Po821, DS 9267, DS 9517 and DS 0895.

12. (Previously Presented) The method of claim 11, wherein said oligosaccharide comprises DS Po912.

13. (Withdrawn.) The method of claim 1, wherein the malignancy is a metastatic tumor.

14. – 15. (Canceled)

16. (Previously Presented) The method of claim 1, wherein the malignancy is lung cancer.

17. (Previously Presented) The method of claim 1, wherein said oligosaccharide is administered in an amount in a range of from about 1 to about 1000 micrograms of oligosaccharide per Kg of subject, weight per weight.

18. (Previously Presented) The method of claim 1, wherein said cancer is metastatic.

19. (Previously Presented) The method of claim 18, wherein said oligosaccharide is a sulfated glucosamine derivative and pharmaceutically acceptable salts thereof.

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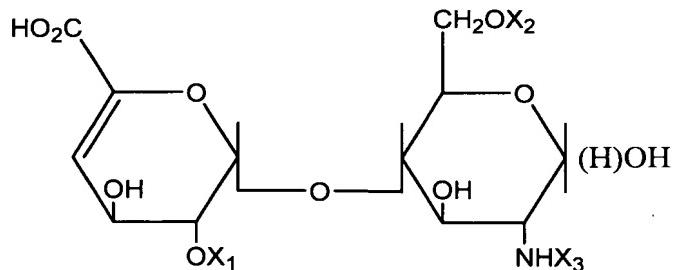
20. (Canceled)

21. (Previously Presented) The method of claim 19, wherein said oligosaccharide is a sulfated disaccharide.

22. (Withdrawn) The method of claim 20, wherein said oligosaccharide is an N-acetylated-4-deoxy-4-en-iduronoglucosamine having at least two sulfate groups and pharmaceutically acceptable salts thereof.

23. (Withdrawn) The method of claim 20, wherein said oligosaccharide is a disaccharide of formula (I) or its pharmaceutically acceptable salt:

(I)



in which X_1 is hydrogen or sulfate; X_2 is hydrogen or sulfate; and X_3 is sulfate or acetyl, provided that if X_3 is sulfate, then at least one of X_1 or X_2 is sulfate and if X_3 is acetyl, then both X_1 and X_2 are sulfates.

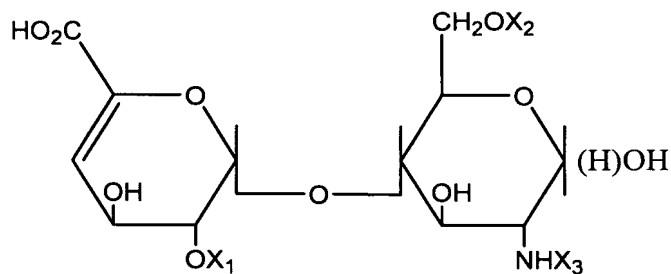
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24. (Previously Presented) The method of claim 21, wherein said oligosaccharide is a disaccharide of formula (I) or its pharmaceutically acceptable salt:

(I)



in which X_1 is hydrogen or sulfate; X_2 is hydrogen or sulfate; and X_3 is sulfate or acetyl, provided that if X_3 is sulfate, then at least one of X_1 or X_2 is sulfate and if X_3 is acetyl, then both X_1 and X_2 are sulfates.

25. (Previously Presented) The method of claim 21, wherein said oligosaccharide is an N-sulfated-4-deoxy-4-en-glucuronoglucosamine having at least one other sulfate group or a pharmaceutically acceptable salt thereof.

26. (Withdrawn) The method of claim 17, wherein said oligosaccharide comprises at least one of DS Po912, DS 1145, DS 1020, DS 8767, DS Po821, DS 9267, DS 9517 and DS 0895.

27. (Previously Presented) The method of claim 18, wherein said oligosaccharide comprises at least one of Po912, DS 1145, DS 1020, DS 8767, DS Po821, DS 9267, DS 9517 and DS 0895.

28. (Previously Presented) The method of claim 27, wherein said oligosaccharide comprises Po912.

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29. (Withdrawn) The method of claim 26, wherein said oligosaccharide is DS 1145.

30. (Previously Presented) The method of claim 18, wherein said oligosaccharide alters localization of tumor cells to treat the metastatic cancer.

31. (Previously Presented) The method of claim 18, wherein said oligosaccharide alters homing activity of tumor cells to treat the metastatic cancer.

32. (Previously Presented) The method of claim 18, wherein said oligosaccharide interferes with the CXCR4 7TM-GPCR signaling pathway.

33. (Canceled)

34. (Previously Presented) The method of claim 1, wherein said oligosaccharide has a molecular weight lying in the range of from about 400 daltons to about 2000 daltons.

35. (Previously Presented) The method of claim 34, wherein said oligosaccharide has a molecular weight lying in the range of from about 400 to about 1100 daltons.

36. (Previously Presented) The method of claim 1, wherein said malignancy is selected from the group consisting of breast cancer, bone cancer, bladder cancer, rhabdomyosarcoma, angiosarcoma, adenocarcinoma, prostate cancer, colon cancer, squamous cell carcinoma of the cervix, ovarian cancer, malignant fibrous histiocytoma, skin cancer, leiomyosarcoma, astrocytoma, glioma and heptocellular carcinoma.

37. (Canceled)